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Dropsy - of Brain

Dr Church

William H Eggleston.

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Inaugural Dissertation

on

Hydrocephalus Internus

or

Internal Dropsy of the Brain

Submitted to the examination

of

The Provost, Trustees and Medical Faculty

of the

University of Pennsylvania

For the Degree of Doctor of Medicine

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The task of submitting to you a Thesis has now devolved upon me, and I have only to regret that my ability is not equal to my inclination in performing it. I am duly sensible of the many errors and imperfections to which it will be liable, and likewise of the distinguished talents of the Tribunal to whom it is addressed, but at the same time it is a source of no little consolation to reflect, that minds of Genius and refinement are generally chastened and expanded with a mild spirit of liberality, that will make every allowance due to the timid efforts of a Student, and the embarrassments of an inexperienced Writer. If circumstances like these deserve the sympathetic feelings of soft and indulgent scrutiny, permit me to solicit it in behalf of the essay which is now laid before you by a Candidate for Medical Honors. The subject which I have selected for the purpose is that of Hydrocephalus Internus. In this selection I have been perfectly an influ-

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-enced by any impulse of vanity, nor have I been deluded by any aspiring hope, of either giving a more perfect developement of the subject than has hitherto been given, or of shedding any new additional light upon it. It was the first that suggested itself, and as I felt no ambition to draw your attention to schemes of innovation or to take any adventurous flight into new Theories, I thought proper to adopt it. There are perhaps very few diseases more interesting to the Physician, more distressing to the Patient and more alarming to his Friends than the Hydrocephalus Internus. But in relation to the nature of this disease, permit me to refer you to the following pages, and to conclude with a wish, that if they should not be fortunate enough to meet with your approbation, that they may at least meet with your Clemency..

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Hydrocephalus Internus

Consists in the deposit of a thin dangerous and incurable disease, and of all the diseases to which the Human Body is subject, none more alarming in its symptoms, or more fatal in its termination.

This complaint attacks Children of all ages but most generally from between the ages of three years of age. Dr Rush says that he has seen it in a Child of six weeks old, sometimes it affects Adults of a good habit of body.

The reason why it attacks Children more than Adults, may be explained in the following manner "the capacity and force of the Heart in proportion to the system of Vessels, is greater at the beginning of life, than at any other period. At the same time a greater quantity of blood is contained in the Arteries, proportionably to what is contained in the Veins, and the Vessels of the Head likewise receive a greater quantity of blood in proportion to the rest of the System. The brain being larger in Children in proportion to the other parts of the Body than in Adults, of course a greater quantity of blood is sent to it in Childhood, than at more advanced stage. The effects of this determination are evident in the mucous discharge from the Nose, and the frequent occurrence of sores behind the Ears and on different parts of the Body

It is a well known fact that in every stage of life, and in fevers of all kinds, there is a disposition to throw in that part to which there is the greatest determination. For instance, in inflammatory fevers effusions take place in the Lungs and joints In the bilious fever they occur in the Liver, and in the Gouty in every part of the

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the body". In all acute diseases Dr. Rush says there is a preternatural determination of blood to the brain. This occurs in a more conspicuous manner in children. Hence the reason why they are so apt to be affected with convulsions in the progress of the Small Pox, in the diseases from worms, and in the first paroxysms of intermitting fevers.

The Symptoms of the Disease.

In the commencement the patient is heavy, inactive, drowsy and slightly feverish, but at intervals cheerful and free from complaint. He then begins to complain of slight pains in the head or belly, the complexion becomes ill, the appetite weak with considerable disorder of all the alimentary functions. These complaints are gradually, but not seldom alarming, and the child's friends are not constrained by a sense of his danger until advancing a step further the commencement of a peculiar disease has more distinctly shewn itself.

The drowsiness and pains in the head are now accompanied, he hears upon getting up in the morning, or after he has begun to sit about with nausea, and in a majority of cases a vomiting occurs once or twice a day, and the skin is observed to be hot and dry towards the evenings. The pain in the head now becomes more acute and is delineated chiefly in the temples, if not there, generally in the crown of the head. Sometimes it is confined to one side. The head generally inclines to the side affected. It frequently continues down the neck, the back & the shoulders. We not unfrequently find the head-ache alternating with the affection of the stomach; the lo-

trembling being by headsome men into men women violent and vice versa.

In this state of the ~~[illegible]~~ disease the Patient has an aversion to the light, cries much sleeps little and when he does sleep he grinds his teeth, picks his nose appears to be uneasy and starts often, screaming as if he were terrified. In addition to these a strabismus takes place the pupil of the eye is dilated and the axes of one eye is generally found to be turned inwards towards the Nose. The pupil on this side of the eye is dilated then on the other and when both have the axes directed inwards which sometimes happens the axes are larger than they are observed to be in the eyes of healthy persons. The vomiting now becomes more constant, the stools more scanty; Every Symptom now then makes its appearance so that the situation of the miserable Patient has to mend to be spectators with the greatest terror. A delirium frequently occurs and that of the most violent kind (say Furor) particularly if the Patient has arrived at the age of puberty.

The Heat is generally excessive about the Head, and the Countenance is greatly flushed about the Sixth, at which time the Fever increases.

In breathing there is considerable pain after every expiration. The tongue is clean, white and sometimes of a yellow colour. In the majority of cases the bowels are costive, Stools are procured with difficulty and when obtained are very offensive. And sometimes a Diarrhea intervenes

Physicians greatly disagree in regard to the state of the tongue. Mighill and some others say it is white in the beginning. Rotheryle and Watson declare that it is no guide more than in health, sometimes it is clean, sometimes foul. Dr. Rush tells us, he has seen a case in which no tongue was discovered in any period of the disease. But in most of the cases related by him, it was covered with a foul, brown skin and intermitting in the beginning of the disease. Dr. Rush has paid as much attention to the pulse as most Physicians, perhaps more. I would advise you to rely upon his judgment as much as any other person, and believe that in a majority of cases the pulse will be found as above related. The symptoms which have been given, occasionally occur though none of them accompany the disease in an invariable manner. Like the Bilious remitting Yellow Fever it assumes a variety of shapes.

Dr. Rush that great observer, to whom the medical world is greatly indebted, has not found the delirium or insensibility, nor the delirium or strabismus, to attend at all times.

He also tells us, that he has seen a case in which the pulse was uninterrupted from the first to the last stage of the disease, and likewise that he met with another in which an uncommon acuteness in hearing took place. In addition to these, Dr. Rush relates a case in which he obtained a pint of water from the ventricles of the brain of a girl of nine years of age who died of this disease, and who complained in the stage of it either of a pain in her neck or limbs, or of a sick stomach. The last mentioned cases are sufficient to show that there are many variations from the history of the disease which have

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itually suspected, a truly "Febrile Inflammation".

The appearances on dissection after death.

We generally find within the Cranium the Veins particularly on the surface of the brain and lining of the ventricles, gorged with dark blood, the membranes in some places seem inflamed and covered with coagulable lymph, sometimes considerable adhesions take place between the thickening of the membranes and minute and varicous vessels upon the Pia Mater. "In Inflammatory Croup has been found on the optic nerves as thick as that observed on the Intestines in a state of inflammation". We find water between the Cranium and Dura Mater, or between the Dura and Pia Mater, but most frequently in the Ventricles of the brain.

The quantity contained in these cavities is sometimes so great as almost to exceed belief. Wright has found eight ounces, Mon ro three pounds, and some have stated where they have obtained some pints of contained water. But we seldom meet with more than from two to six, or eight ounces of fluid within the Ventricles. "Both inflammation and effusion do not always attend in this disease, for dissections have shewn some cases of inflammation with little or no effusion, and some of effusion without inflammation. This variety may have been produced by the different stages of the disease in which death and the inspection of the brain took place". In the abdomen the Intestines have been found inflamed and constricted from spasm, and the surface of the

of a bright red colour and sometimes adhering to the peritoneum. In some cases we find the surface of the liver covered with small white tubercles not larger than a grain of mustard. The glands of the mesentery are often diseased as is evinced by their enlargement.

Of the Diagnosis

It might be of some consequence to distinguish this disease from some others resembling it, though it appears from what has been said that we can only depend upon no symptom which can be considered as characteristic. Infants cannot give an account of their sensations and therefore we are more uncertain untill the symptoms of affected brain appear. We may however judge of the nature of the disease when the Infant has a fever, vomiting, with costiveness or diarrhea, lies oppressed with the eyes shut, dislikes the light, puts the hand frequently to the head as if going to rub something off, has startings and shrieks and awakes suddenly as if terrified. It must be confessed that the Diagnosis of this disease is very difficult, for in disorders of the bowels from dentition, and other causes symptoms may occur somewhat similar to those which appear in the forming state of Hydrocephalus. As we have no certain characteristic by which we can distinguish this disease we should like faithful centinels be constantly upon our guard as

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always suspect the approach of the enemy. In two thirds of the diseases which afflict the human race tremendous oppression in some half of the body; mental uneasiness there was a severe headache accompanied with an affection of the stomach, slow or irregular pulse, always indicated a dropsy of the brain. The same remedies will generally be serviceable in complaints with which this disease may be confounded, and we deserve until the last stage to obtain a more certain Diagnosis, nor ever entirely any hope of doing good.

The Causes of Hydrocephalus

It is produced by causes, the operation of which cannot always be detected, but most frequently it can be traced to the sudden removal of an eruption, or cutaneous discharge from the head. Falls or bruises upon the head, certain states of the body, and childish plays, these act directly in causing congestion or inflammation and effusion as an effect. It is also produced by a variety of diseases, as in ter mitting, continued and eruptive fevers, by the pulmonary consumption, rheumatism and worms. They appear to act on the brain indirectly through the medium of the nervous system. From the dissections of Cruveilhier, Dean and others it appears further, that the Internal Dropsy of the brain has been observed to succeed each of the following diseases, viz in Colic, Palsy, melancholy, epilepsy, dentition, intestinal scrofula, and the sudden healing of old sores. From the facts enumerated it is evident that this disease may be considered as arising without from an inflammation of the brain. The pulse which is full and tense, the delirium, difficulty of breathing and the aversion to light are all symptoms of inflammatory disease.

Upon opening the cranium after death, the blood vessels are found turged with blood, and there is every appearance of inflammation of the brain. Dr Dean has related a case directly in point. The head of a patient

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in spite of the dead with every symptom of dry hydrophobia, and no water was found in the ventricles, the vessels were delicately red with blood, and recuperatives could have in fact then more nearly. The case cannot I acknowledge be properly called a dropsy of the brain, altho every symptom of this complaint was present

The term Hydrocephalus (a disease of water) which the disease has derived its name, does not appear to be applicable in this, the first stage of the disease as the effusion of water [redacted] is evidently the effect of the disease, and not its cause. In some cases no effusion has been detected, as was stated before, and it is probable that in every case, the effusion does not take place but in the latter stage of the disease. Phrenitis, an appellation which Dr Rush has given would be more proper, and it is probable that this term will be generally adopted at a future time. But it should be remembered that a Physician is to be governed by the Symptoms, such as the Pulse, and also by the general State of the System and not by the name of the disease. Preserving for the mere name of a disease has made as much havoc among mankind as the Yellow Fever or the Plague. We are now arrived at the last part of our subject, and that of the most importance which is, the Method of Cure.

Blood Letting

We need no other proof of the beneficial effect of this remedy, than that of Dr Rush, who has given the history of many cases in the 2d Vol of "Medical inquiries and observations" where the use of the Lancet completely succeeded in curing this disease together with the remedies to be mentioned. In addition to his authority, I might mention that of Monro, Sim. Patterson, and many others but it matters not who has recommended it, as every man that has any pretensions to a knowledge of the laws of animal oeconomy must be governed in his prescription by such symptoms as either indicate depletion

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repetition of the remedy. Should the pulse and general state of the system be marked by an increased or inflammatory action we must by all means recommend bleeding.

The necessity of bloodletting is much lessened some day of rest, and it might to be carried to such an extent as to assume a determinate end; I mean that of lessening local congestion, and diminishing arterial action. Drawing and some others seem to prefer local evacuations, to general bleeding, by means of leeches, cupping or scarifying. When the patient is very young, the jugular vein or temporal artery may be opened, when we cannot procure sufficient quantity by other means. In the very young we meet with some difficulty in obtaining blood from the arm: in this case we must have recourse to local depletion. The repetition of the general and topical bleeding should depend on the appearance the disease exhibits; and so long as marks of inflammatory action in the cephalic, the brain or symptoms of local congestion remain, these operations may be repeated from time to time until the pulse and inflammatory action has subsided. The quantity of blood to be taken must be different in the different stages of the disease. We are therefore to be governed by the pulse and the general state of the system.

Of Cathartics

I have constantly observed says Dr Rush, all the patients whose cases have been related, to be relieved by plentiful and repeated evacuations from the bowels. When symptoms of inflammatory action in the cephalic of the brain are present, purgatives by lessening the determination to the head, necessarily do good.

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of the bowels indicated by the stools being either pale or clay coloured, or dark and bloody. Great attention should be paid to the bowels, our Patient should never have his bowels costive. Dr Dewees advises us to use Calomel as a purge, and cautions us against adding any thing to it which is likely to produce a vomiting, because should a vomiting take place, the flow of blood would be increased in the vessels of the head. Some advise Jalap, in combination with Calomel, and others again advise the Crystals of Tartar mixed with Gamboge. The dose of the purge should be regulated agreeable to the age, and constitution, of the Patient, and to be given as often as occasion may require. I should prefer Calomel and Jalap myself, and it should be given every day or two as occasion may require.

Of Blisters.

In every stage of the disease and at the commencement it may, Blisters above all be highly serviceable. They produce their good effects by keeping up a drain, and taking off the plethora from the vessels of the brain. The great discharge which they occasion, from the vessels of the head greatly overbalances their stimulating effects on the whole system. They may therefore be used in every stage. They may be applied on the neck, temples, behind the ears, or over the head. And we may keep it continually running by means of the Unguentum Sabinæ or Unguentum Vesicatorium.

Of Mercury.

This remedy has been highly recommended by some Writers on this disease. Drs Percival and Jackson, spoke so much in praise of mercury in Hydrocephalus as almost to lead many to believe it a specific

from the experience of the Surgeons Mate we are inclined to place no reliance as to any thing more than a sialagogue. Dr Barton in his Lectures on Materia Medica having been asked in this disease, after many observations and experiments, is indeed to conclude that no reliance can be placed on it as a sialagogue in the cure of the disease now under our notice. From the high authority quoted, I think it may be opposed that this remedy is unsafe in the cure of this disease. It may be objected to, on account of the uncertainty of its operation, and also its inefficacy. If it excites a mercurial action, as it also will, its tendency to produce gangrene in the tender jaws of infants. It should never be used says Dr Rush as a sialagogue in patients under nine or ten years of age: for the above mentioned reasons. We are therefore to place no reliance on Mercury in the cure of this disease. But depend principally, on bleeding Cathartics and Blisters in the first stage. These seem to promise a much fairer chance for success, than Mercury used so as to excite, what is called a Mercurial action in the System.

The application of Cold to the Head.

The head should be previously shaved & a linen cloth dipped in Vinegar and Water, or Ice and Water, or Ice alone may be kept constantly applied to the head. The cloth should be renewed as often as it becomes warm and dry. This remedy may be used before the application of the blister, or after the blister has been applied, a very nether as before, may be applied to the Forehead to alleviate the pain.

Of Lotions & Douches.

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in Cases of Epilepsy and Apoplexy, reasoning from analogy, some have supposed they might be tried as a preventive, where it is likely to arise from an hereditary predisposition. Patterson supposes, that in a lingering or chronic case there may be room for their application, and that they may be introduces as prophylactics with strong expectations of advantage.

Of Rest.

The Patient should be kept as quiet as possible in a dark room, free from the stimulus of light, and noise of every kind should be avoided if possible

Opium.

Some think favorably of this remedy, while others say, that Opiates are absolutely necessary in large and repeated doses when the pains are very acute. As Hydrocephalus bears some relation to Phrenetis, and as according to the most celebrated writers, Opium is improper in the Phrenetis, I would administer it with the greatest caution in the disease under consideration.

Sternutatories

I should suppose the shock given to the head in the act of sneezing, would in no manner lessen the accumulation of blood in the vessels of the brain or produce an absorption of water from the Ventricles. I am induced to believe they will tend very much to aggravate the symptoms, rather than afford any relief. For as the least motion of the head must be detrimental to the Patient, I should not be disposed to recommend them.

Compression of the Carotids

This has been proposed by Patterson in order to obviate a morbid accession of blood to the vessels of

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the head. We have no objection to a trial of this remedy. Fiat experimentum.

Digitalis

This has been suggested as a remedy in Hydrocephalus, but from the experience of those that have tried it, we have nothing to hope for as to its beneficial effects.

To what particular state of the disease it may be adapted, whether it might relieve by diminishing arterial action, or by its powers as a diuretic, I am not able to say, But think it a useless remedy at any time.

Lastly after the strength of the patient is much reduced we can do nothing more than give such remedies as are used in all other diseases proceeding from debility.

Tonics and stimulants may be used cautiously in these cases and nourishing diet, gentle exercise in cool air &c. Dr Rush has suggested the use of the Cold Bath to prevent a return of the disease, where it has yielded to the power of medicine. No objection can be made to the use of this remedy.

On concluding this crude production, I should be doing injustice to my own feelings, were I to omit an acknowledgement of the many obligations I am under to the the Professors of the different branches of medicine in this University. Accept Gentlemen, my warmest wishes for your prosperity. May you always meet with the reward which is so amply and justly due to your merit; and may your lives be as happy as they have been useful, and may your endeavours to improve the science of medicine be crowned with as much honor to yourselves, as they have been beneficial to mankind.